



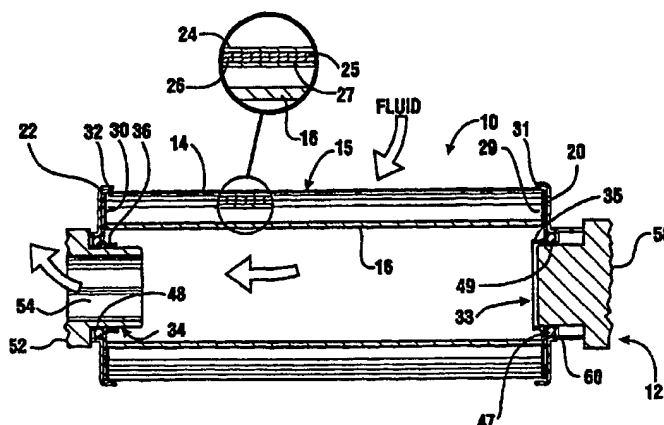
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(54) Title: CONDUCTIVE FILTER ELEMENT



(57) Abstract

A filter apparatus (10) which dissipates static charge from fluid flowing through the apparatus has a filter housing (12) enclosing a filter element (14). The filter element includes a tubular filter media assembly (15) which incorporates a conductive structure to draw off static charge in fluid passing through the media. The tubular filter media assembly comprises an outer steel mesh support layer (24); a first intermediate layer (25) of a filtration media; a second intermediate layer (26) of a carbon material, e.g., stainless steel, nickel or carbon fiber mesh, mat or matrix; and an inner steel mesh support layer (27). The filter media assembly is pleated and disposed around a central perforated conductive tube (16). The filter media is electrically connected at one or both ends through conductive adhesive or epoxy to at least one conductive end cap (20, 22). The conductive end cap has a central opening (33, 34), and receives a portion of the grounded filter housing (50, 52), for example, an inlet tube. A conductive elastomeric O-ring seal (48, 49) is disposed between the conductive end cap and the respective portion of the filter housing extending through the end cap opening. The O-ring seal electrically connects (grounds) the conductive end cap(s) to the respective housing portion to provide a flexible ground path for carrying away static charge in the fluid passing through the cartridge.